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About Germicidal Ultraviolet (GUV)

Electrolips LLC has received feedback from WIPO regarding the international search report and written opinion for WO2024241184, its motion-activated UVC sterilization device.

This Patent Is for Sale or Licensing

UV sterilization has been used for over 70 years to eliminate pathogens. All of the components have been in use globally for decades and manufacturing is a simple process of this

product. It is about as complicated as a Lamp. The beauty of the product is the retrofit capability as well as the Door and deflector that direct light from the surface the decive is mounted on to other locations where sterilization is wanted. This si a very smart design and holds thousands of potential applications while reducing chemical signiture from harmful bleach, amonia, and alcohol production and residue.

Where to Use UV Light Sterilization

Because direct exposure to strong ultraviolet light can cause blindness and skin burns to people and animals, sterilization generally takes place in shielded UV hoods or light-proof UV chambers. UV treatment works well in applications where bacterial contamination poses a problem on surfaces, in air or water in aquariums, ponds, laboratories and clean rooms.

How UV Light Sterilization Works

Ultraviolet light kills microorganisms by damaging their DNA. UV radiation disrupts the chemical bonds that hold the atoms of DNA together in the microorganism. If the damage is severe enough, the bacteria cannot repair the damage and the cells die. Prolonged exposure to UV light helps ensure

complete kill-off of all microorganisms. Unlike chemical treatments, however, UV-treated air or water does not resist re-contamination 1.

Ultraviolet light kills microorganisms by damaging their DNA.

UV radiation disrupts the chemical bonds that hold the atoms of DNA together in the microorganism.

UV damages the reproductive parts of micro organisms.

Why Use UV Light Sterilization

Ultraviolet light penetrates the cells, but does not alter the surface, water, air or food being treated. Nothing is added to the medium except energy. Dead microorganisms also are not removed from the sterilized medium. Nor are organic or inorganic particles in the water or air. Some organisms, like certain molds, are not as affected by UV radiation. UV radiation is indicated in situations where chemical residue after sterilization is not acceptable.

Above: Early 3D and Wireframe models made at the birth of conceptualization.

Global Sterilization Equipment Market Size and Growth:

The global sterilization equipment market was valued at approximately USD 9.31 billion in 2022 and is projected to grow to USD 19.25 billion by 2030, exhibiting a CAGR of 9.7% during the forecast period.
fortunebusinessinsights.com

Rising Demand for Infection Control:

The increasing incidence of healthcare-associated infections (HAIs) has intensified the need for effective infection control measures. The World Health Organization (WHO) introduced an infection prevention and control (IPC) framework to mitigate the impact of HAIs, which is crucial for ensuring patient safety in hospitals.
pmc.ncbi.nlm.nih.gov

Market Segmentation and Opportunities:

Below: Orthographic drawings of the Patent Submission.

Hospitals & Healthcare: The demand for sterilization equipment in hospitals is driven by the need to prevent HAIs, which affect approximately 1 in 10 patients globally, with higher rates in low- and middle-income countries.

grandviewresearch.com

Public Transport: As public transportation systems resume full operations post-pandemic, there is an increased focus on maintaining hygiene to prevent the spread of infections, presenting a significant opportunity for sterilization solutions.

Food Processing & Hospitality: The need to maintain strict hygiene standards in food processing and hospitality sectors to prevent contamination and ensure consumer safety drives the demand for effective sterilization equipment.

Office Buildings & Workspaces: With the return to office spaces, businesses are investing in sterilization solutions to ensure a safe working environment for employees,

highlighting the importance of effective infection control measures.

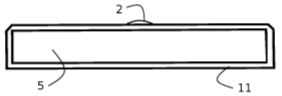
Competitive Advantage of Automated UVC Sterilization:

Automated UVC sterilization devices offer a chemical-free and efficient method to disinfect various environments, reducing reliance on manual cleaning and minimizing human error. The self-sustaining, solar-powered design further enhances cost-effectiveness and scalability across different sectors.

These sources provide a comprehensive overview of the market landscape, highlighting the growing demand for advanced sterilization solutions across various industries.

WIPO International Search Report and Written Opinion (WO2024241184)

Fig. 1A



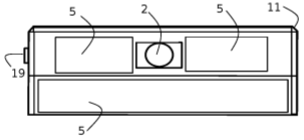


Fig. 1B

Fig.4A

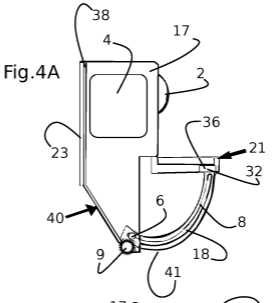
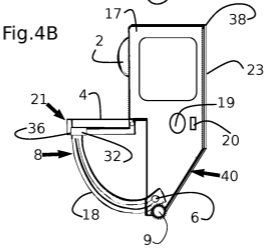


Fig.4B



Application Number: PCT/IB2024/054847
International Filing Date: May 18, 2024
Earliest Priority Date: May 22, 2023
Classification of Subject Matter: A61L 2/10 (Sterilization)

Exciting news!! Our patent-backed UVC sterilization technology is set to revolutionize hygiene standards across hospitals, transit systems, homes, offices and public facilities.

Fully automated, solar-powered, and chemical-free—this is the future of disinfection.

Publication Number WO/2024/241184

Publication Date 28.11.2024
International Application No. PCT/IB2024/054847
International Filing Date 18.05.2024

Problem Statement: The Need for Next-Gen Sterilization

Traditional sterilization methods have major flaws:

✅ Chemical disinfectants leave toxic residues and require manual labor, increasing human error and inefficiency.

✅ Ozone & ionization systems pose health risks, require extensive compliance measures, and are

Self Powered with assist if required.

The use of Ultraviolet Light for sterilization and disinfection has been in our society for a long time. I first noticed it in mainstream use in a tattoo parlor in the mid 1990,s in New York city. The artists would further disinfect after manual cleaning their

unsuitable for sensitive environments.
✅ Handheld UVC devices require constant user interaction and lack consistency, leading to incomplete disinfection.
✅ Expensive, large-scale hospital disinfection systems are not viable for smaller businesses and public settings.

Solution: Our device offers automated, continuous UVC disinfection in a compact, affordable, and scalable format. By utilizing smart motion sensors and renewable solar power, our sterilization system ensures maximum efficiency while minimizing operational costs.

tools to sterilize them before hermeticaly sealing them for their next client. Until recently the UltraViolet light waves have been harmful due to their wave size. Now however with newly manufactured UV-C classification the radiation emitting diodes and bulbs are now safe for public spaces, businesses and homes.

The use of PhotoVoltaic cells has been around for many decades and is common in todays society. Being utilized for powering objects from pocket calculators, entire homes,
structures, and vehicles to name a few of their many applications.

The electronic components used are very common and utilized globally for decades due to their reliability and longevity. The more recently developed parts produce a compact streamline self-contained Disinfection unit with time delay,motion sensor cutoff capability and a long life cycle.

"A Smarter, Safer, Clean – Solar-Powered UV Sterilization device for home work or school"

- Market Size & Revenue Potential

Global disinfection technology market = $10B+ industry

- Competitive Edge Over Existing Technologies

Unlike ozone/chemical fogging, no toxic byproducts

Motion-activated, solar-powered = sustainable, lower operating costs

Deflector panel + reflective tech = increased surface coverage and target surface area desired.

- Monetization & Exit Strategies

The Sanitation Device is a self contained Uv-C Ultraviolet sterilization unit. It is designed for surfaces where sterilization is wanted. The unit itself is comprised of a motion sensor(s), Photovoltaic cell(s), Batterie(s), and Uv-C light emitting technology. The device detects motion and when motion stops the Uv-C disinfection cycle begins. The cycle is halted immediately if new motion is detected and a new cycle begins after new motion ceases. It reduces chemical dependency in cleaning and disinfection .The device can be mounted on any surface that needs disinfection or adjacent surface that needs disinfection. It uses reflective technology which channels the UV-C rays and has slight directional capability for casting by use of a reflective panel that opens which broadens the surface area that can be sterilized and an adjustable deflector(s) for further directional control. It is linear shaped (except for the smaller version which due to its compact width creates additional depth due to Photocells on the sides and top of unit). However the units longer in length can be made without the

Direct sales to hospitals, airlines, schools, and public sectors
OEM Licensing (sell patents to existing sterilization tech firms)
Subscription Model: Facilities pay for sterilization as a service

side and top photocells due to the surface amount on the front of the device which holds enough area to house the Photocells needed to power the unit.
The Sanitation Device is also equipped with an external power port for use in conjunction with heavy traffic areas, which connects directly to AC/DC. The unit is equipped with a power button and a manual over-ride switch for stopping and starting the Uv-C sterilization cycle by manual switching.

Technology & Key Features

- Patent-Pending Motion-Activated UVC Technology - Automatically innitiates a UV sterilization cycle when motion ceases, ensuring safety while maintaining consistent sterilization cycles.
- Photovoltaic (Solar-Powered) & Battery Storage - Operates independently of external power, making it ideal for remote and off-grid applications.

- Adjustable UVC Deflectors & Reflective Panels - Maximizes sterilization coverage with precision-targeted UVC emissions.
- Plug-and-Play Installation - Designed for effortless to minimal work when mounting on walls, ceilings, and transport systems, enabling widespread adoption and retrofit cpabilities.
- Backup Power Port & Energy Storage - Ensures uninterrupted operation in high-traffic zones and emergency situations.
- Smart Control System - Allows users to customize sterilization cycles, motion sensitivity, and energy consumption based on real-time environmental conditions.

Scalability & Competitive Advantage:

Unlike traditional disinfection solutions, our device is self-sustaining, chemical-free, cost-effective, and scalable. It outperforms existing alternatives by reducing labor costs, minimizing harmful residues, and providing a sustainable, automated solution adaptable to multiple industries.

The Current Limitations of UV Light in Hospitals which the Sterilization Device helps to Overcome

through its compact and easily retrofit designs.

- While UV light sterilization has shown its benefits, it also comes with significant limitations that hospitals should be aware of:
- Surface-only sanitization: UV light is most effective on direct surface contact, which means it only sterilizes what the light can physically reach. Shadows, corners, and hidden surfaces are not treated. This leaves room for pathogens to survive in areas that are not fully exposed to UV light.
- No continuous protection: UV light only disinfects during the time of application. Once the light is turned off, pathogens can return as soon as contaminated air or people enter the room.

"Disinfection Without Chemicals – Fully Automated UltraViolet Protection"

Funding Requirements & Investment Offer:

We are raising 1.5 million euros for prototyping, regulatory compliance, and global patent expansion. In return, investors will receive:
Equity share in global patent rights with access to a lucrative, high-growth market.
Revenue-sharing on licensing deals and direct sales, providing long-term financial returns.
First-mover access to a $10B+ industry with growing demand for sustainable sterilization solutions.
With this funding, we will accelerate product finalization, certification, and pilot deployments, enabling rapid scaling and market entry.

Business Model & Revenue Strategy

Revenue Streams:

✅ Direct Sales to Businesses & Public Facilities – Initial hardware sales & installation fees.

✅ Patent Licensing & OEM Partnerships – Large-scale manufacturers integrate our IP into their systems.

✅ Sterilization-as-a-Service (Subscription Model) – Monthly contracts with hospitals & transit authorities.

✅ Government & Institutional Contracts – Regulatory incentives for public health initiatives.

Projected Revenue in 3 Years: €5M–€15M (based on early adoption and licensing deals).

This site is focused on raising capital for forward thinking inovations and designs. Many options of investment and partnerships levels are available. The website Www.ElectroLips.Com also serves as a resource for grants , loans and other business related resources. ElelctroLips llc Berkeley California.

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